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NOTICE OF ALLOWANCE AND FEE(S) DUE

25225 7590 11/17/2008

MORRISON & FOERSTER LLP
12531 HIGH BLUFF DRIVE
SUITE 100
SAN DIEGO, CA 92130-2040

EXAMINER

VENCI, DAVID J

ART UNIT

PAPER NUMBER

1641

DATE MAILED: 11/17/2008

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/714,163

11/13/2003

Lawrence M. Kauvar

388512010411

2892

TITLE OF INVENTION: METHOD OF IDENTIFYING A USEFUL SET OF SIGNAL TRANSDUCTION PROTEINS FROM A MULTIPLICITY OF POTENTIALLY USEFUL PROTEINS

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | YES | \$755 | \$300 | \$0 | \$1055 | 02/17/2009 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

25225 7590 11/17/2008

MORRISON & FOERSTER LLP
12531 HIGH BLUFF DRIVE
SUITE 100
SAN DIEGO, CA 92130-2040

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
|--------------------|
| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/714,163 11/13/2003 Lawrence M. Kauvar 388512010411 2892

TITLE OF INVENTION: METHOD OF IDENTIFYING A USEFUL SET OF SIGNAL TRANSDUCTION PROTEINS FROM A MULTIPLICITY OF POTENTIALLY USEFUL PROTEINS

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|-------------|--------------|---------------|---------------------|----------------------|------------------|----------|
|-------------|--------------|---------------|---------------------|----------------------|------------------|----------|

nonprovisional YES \$755 \$300 \$0 \$1055 02/17/2009

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|----------|----------|----------------|
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VENCI, DAVID J 1641 435-007600

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/714,163 | 11/13/2003 | Lawrence M. Kauvar | 388512010411 | 2892 |
| 25225 | 7590 | 11/17/2008 | EXAMINER | |
| MORRISON & FOERSTER LLP 12531 HIGH BLUFF DRIVE SUITE 100 SAN DIEGO, CA 92130-2040 | | | | |
| | | | VENC, DAVID J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1641 | |
| DATE MAILED: 11/17/2008 | | | | |

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 842 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 842 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/714,163

Examiner

David J. Venci

Applicant(s)

KAUVAR, LAWRENCE M.

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 3, 2008.
2. ☒ The allowed claim(s) is/are 20 (renumbered as claim 1).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20080718(10July2008);
20080718(15July2008); 20080716(incl. 2-page attachment).
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

EXAMINERS' AMENDMENT

An examiners' amendment to the record appears below. Should Applicant find the changes and/or additions unacceptable, Applicant may file an amendment as provided by 37 C.F.R. 1.312. To ensure consideration of Applicant's amendment, the amendment must be submitted no later than the payment of the issue fee.

Authorization for this examiners' amendment was given during an in-person interview held on July 16, 2008 (see PTOL-413 – Interview Summary, Paper No. 20080716). Authorization for the examiners' amendment to the Title and Abstract was given during a telephone interview held on July 21, 2008.

In the Specification:

Please replace the Title with the following rewritten title:

METHOD OF IDENTIFYING A USEFUL SET OF SIGNAL TRANSDUCTION PROTEINS
FROM A MULTIPLICITY OF POTENTIALLY USEFUL PROTEINS

Please replace the Abstract with the following rewritten abstract:

The present invention is a cell-based method of identifying a set of signal transduction proteins having an intracellular localization pattern responsive to toxic compounds. The method requires identifying and screening an initial set of signal transduction proteins against a set of toxic compounds, and determining changes in intracellular localization pattern of each of the proteins. Proteins whose changes in intracellular localization pattern are redundant are discarded from the initial set, and new proteins are added to

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provide a new set of proteins. I repeat the method steps with new sets of proteins until the set of proteins provides me at least 5 principal components with respect to the range of compounds marketed as small organic molecules.

Please amend the paragraph on page 1, under the title (see Preliminary Amendment, filed November 13, 2003) as follows:

This application is a continuation-in-part ~~divisional~~ of U.S. Serial No. 09/332,611 filed 14 June 1999 and now U.S. Patent 6,673,554 ~~allowed~~. The contents of that document is incorporated herein by reference.

Please insert on page 6, between lines 11-12, the following paragraph:

In more detail, this aspect of the invention is directed to a method to identify a set of signal transduction proteins whose intracellular localization is useful to determine perturbations from normal cellular status which method comprises

arbitrarily identifying an additional set of signal transduction proteins;

determining the changes in intracellular localization in response to an initial set of arbitrarily chosen compounds which modify the status of the intracellular environment with respect to said initial set of signal transduction proteins;

comparing the changes in intracellular localization obtained among members of the initial set of signal transduction proteins and compounds;

discarding compounds and/or signal transduction proteins which result in redundant intracellular translocation information;

substituting additional provisional signal transduction proteins and compounds for the proteins and compounds discarded to obtain a second set of proteins and a second set of compounds;

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obtaining intracellular localization information for the second set of compounds with respect to the second set of proteins;
again comparing the intracellular localization information obtained among members of the initial set of signal transduction proteins and compounds, and
discarding compounds and proteins that result in redundant profiles; and
repeating the foregoing steps until a set of proteins is obtained which provides at least five principal components with respect to the range of compounds marketed as small organic molecules.

In the Claims:

Please cancel claims 7-13, 21 and 22.

Please amend claim 20 as follows:

20. (Examiners' Amendment) A method to identify a set of signal transduction proteins whose intracellular localization pattern changes ~~significantly~~ in response to toxic compounds, which method comprises

~~arbitrarily~~ identifying a first set of signal transduction proteins;

providing a set of toxic compounds;

contacting each ~~member of said first set of~~ signal transduction protein of the first
set proteins with each one of the toxic compounds;

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determining the changes in intracellular localization pattern of each of the signal transduction proteins of said first set in response to each of the toxic compounds;

discarding those signal transduction proteins from said first set whose changes in intracellular localization pattern are redundant;

adding new signal transduction proteins to provide a second set of signal transduction proteins;

contacting each ~~member of said second set of~~ signal transduction protein of the second set proteins with each of the toxic compounds;

determining the changes in the intracellular localization pattern of each of the signal transduction proteins of said second set in response to each of the toxic compounds;

discarding those signal transduction proteins from said second set whose changes in intracellular localization patterns are redundant; ~~and~~

adding new signal transduction proteins to provide a third set of signal transduction proteins; and

repeating the steps for which the second set of signal transduction proteins was used until a final set of proteins is identified ~~obtained~~ which provides at least five principal components with respect to the range of compounds marketed as small organic molecules.

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Reasons for allowance

The following is the Examiners' statement of reasons for allowance:

In-person interview held on July 16, 2008 (see PTOL-413 – Interview Summary, Paper No. 20080716).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Claim 20 is allowed.

Claim 20 is amended by Examiners' Amendment.

Claims 7-13, 21 and 22 are canceled by Examiners' Amendment.

The Specification including Title and Abstract are amended by Examiners' Amendment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Le at 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

David J Venci
Assistant Examiner
Art Unit 1641

/Long V Le/
Supervisory Patent Examiner, Art Unit 1641